# Nomenclatural studies on the British Pompilidae (Hymenoptera)



M. C. Day

Department of Entomology, British Museum (Natural History), Cromwell Road, London SW7 5BD

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# **Synopsis**

Type-material of north-west Palaearctic species of Pompilidae has been examined in order to determine the correct application of names of the 41 species that comprise the pompilid fauna of the British Isles. Particular attention has been given to the identity of type-species of genera and the consequent application of generic names. The priority of various competing suprageneric names has been established. The identity of the genus *Aporus* Spinola is discussed in detail and action taken to stabilize the name in its current sense. Two genus-group names and ten species-group names are newly synonymized; one genus-group name and three species-group names are recalled from synonymy. One new species (previously misidentified) is proposed and 18 lectotypes are designated; one new combination is established. Two species are newly recorded from Britain and a revised check list of British species is given. Six extra-limital species are treated.

### Introduction

The Pompilidae are spider-hunting fossorial wasps of predominantly tropical distribution, but with some 41 species in the British Isles. They are not commonly encountered, are relatively difficult to capture and have a markedly homogeneous general morphology. It is thus not surprising that these wasps have been poorly understood and frequently misidentified. However, in recent decades real progress has been made in the recognition of species as biological entities and in the correct association of sexes. The significance of particular morphological characters is now better understood, and it is possible with reasonable certainty correctly to identify the type-material of early authors in order to stabilize nomenclature. Unfortunately, few past students have attempted exhaustively to locate and identify such material. This is not to say that these studies have been neglected; but they have been fragmentary and progress has thus been arbitrary rather than systematic. The imminence of a revised edition of the Hymenoptera part of the Check List of British Insects has prompted the re-examination of type-material of early authors, and the results are presented here. Designation of lectotypes where necessary and the presentation of unambiguous synonymies will, I hope, clarify the nomenclatural history of many names; unfortunately, many past synonymic lists have not adequately differentiated between original descriptions, subsequent citations, homonyms and misidentifications. I hope that the work can eventually be expanded in order to lay a sound nomenclatural base for future work with the larger southern Palaearctic fauna. Particular attention has been paid to the application of generic names; this has necessitated the study of some tropical forms. The designation of lectotypes for the typespecies of some genera here suffices to stabilize existing usages, some of which have been in doubt.

The classification of the Pompilidae presents many difficulties, and it is not realistic to suppose that the one employed here will remain unaltered in the future. In particular the Palaearctic species are grouped in many subgenera, some of which may achieve generic status when the world fauna is better understood, others of which may be reduced to the status of species-groups. I support the approach of Bohart & Menke (1976), who employ no subgenera in their classification of world Sphecidae. However, for the present I have used existing subgeneric names in conformity with current usage.

As with subgenera, so with subspecies; the Palaearctic fauna, more than any other, has many species for which a multiplicity of names designate various colour, geographic and morphological variants. I am not convinced that this a desirable practice, since it overburdens our nomenclature and thus expands the primary task of taxonomists working at the species level. It can hardly be of value to other biologists, who are often in doubt as to which species confronts them in the first instance. I have thus dispensed with trinomials; I hope to present more detailed arguments elsewhere. Suffice it to say that, whilst I believe it proper to describe variation and to key species adequately in that context, I do not believe there to be any overall benefit in applying formal infraspecific names.

Species not here recorded in their synonymies as listed in Kloet & Hincks (1945), or not otherwise stated to occur in Britain, are exotic.

The names of institutions in which material studied is housed are herein abbreviated as follows.

BMNH British Museum (Natural History), London, United Kingdom. CLS Collection of the Linnean Society, London, United Kingdom.

IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium.
MIZSU Museo ed Istituto di Zoologia Sistematica dell'Università, Turin, Italy.

MLU Martin-Luther Universität, Halle-an-der-Saale, East Germany.

MNHN Muséum National d'Histoire Naturelle, Paris, France.

MNHU Museum für Naturkunde der Humboldt-Universität, Berlin, East Germany.

NM Naturhistorisches Museum, Vienna, Austria.

NMHN National Museum of Natural History, Prague, Czechoslovakia.

NMV National Museum of Victoria, Melbourne, Australia. NR Naturhistoriska Riksmuseum, Stockholm, Sweden.

RNH Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands.

TM Természettudományi Múzeum, Budapest, Hungary.
 UM University Museum, Oxford, United Kingdom.
 UZI Universitetets Zoologiska Institution, Lund, Sweden.

UZM Universitetets Zoologiske Museum, Copenhagen, Denmark.

ZI Zoological Institute, Leningrad, U.S.S.R.

ZMU Zoological Museum of the University, Helsinki, Finland.

# The nomenclature of the British Pompilidae

Family POMPILIDAE Latreille

Pompilii Latreille, 1805: 277. Type-genus: Pompilus Fabricius, 1798: 212.

Subfamily PEPSINAE Lepeletier

Pepsites Lepeletier, 1845: 464. Type-genus: Pepsis Fabricius, 1804: 207.

Tribe PEPSINI Lepeletier

Pepsites Lepeletier, 1845: 464.

#### Genus CRYPTOCHEILUS Panzer

Cryptocheilus Panzer, 1806: 120. Type-species: Sphex annulata Fabricius, 1798 (junior primary homonym of Sphex annulata Lichtenstein, 1796) [= Pompilus comparatus Smith, 1855], by subsequent designation (Westwood, 1840: 82).

Calicurgus Brullé, 1833: 364. Type-species: Sphex annulata Fabricius, 1798 (junior primary homonym of Sphex annulata Lichtenstein, 1796) [= Pompilus comparatus Smith, 1855], by monotypy. [Synonymy with Cryptocheilus by Pate, 1946: 78.]

Under current provisions of the *International Code of Zoological Nomenclature*, *Cryptocheilus* is clearly to be treated as of masculine gender.

Various subgeneric names are employed for components of the European fauna, of which only one is represented in Britain.

#### Subgenus ADONTA Billberg

Salius Fabricius, 1804: 124. Type-species: Sphex sexpunctata Fabricius, 1794 [= Sphex versicolor Scopoli, 1763], by subsequent designation (Guérin-Ménéville, 1849: 316). [Junior homonym of Salius Schrank, 1798.]

Adonta Billberg, 1820: 101. [Replacement name for Salius Fabricius.]

#### Cryptocheilus (Adonta) notatus (Rossius)

Sphex notata Rossius, 1792: 127. Type-material not located, presumed lost, ITALY. [Name first used in Cryptocheilus by Šustera, 1924: 86, 96.]

Pompilus affinis Vander Linden, 1827: 337. Type-material not located, presumed lost, Belgium. [Synonymy suggested by Šustera, 1924: 86, 96.]

Cryptocheilus affinis (Vander Linden); Kloet & Hincks, 1945: 318.

Recent European authors recognize three so-called subspecies: C. n. notatus (alpine and Mediterranean) with red coloration restricted to a patch on the second tergum; C. n. affinis (Vander Linden) for the northern (including British) forms, with red on the first three terga; and C. n. melanius (Lepeletier) (Mediterranean) with no red colour. I see no value in trinomials for such colour variants and prefer to use the simple binomial.

## Cryptocheilus (Adonta) versicolor (Scopoli)

Sphex versicolor Scopoli, 1763: 295. Type-material lost, Yugoslavia. *Priocnemis variabilis* (Rossius); Smith, 1858: 70.

Smith recorded a female specimen from South Wales. I have seen a specimen in BMNH so labelled; it is a female C. versicolor (Scopoli), undoubtedly mislabelled as to provenance.

#### Genus PRIOCNEMIS Schiødte

Priocnemis Schiødte, 1837: 324. Type-species: Sphex exaltata Fabricius, 1775, by subsequent designation (Westwood, 1840: 82).

#### Subgenus PRIOCNEMIS Schiødte

Priocnemis Schiødte, 1837: 324.

## Priocnemis (Priocnemis) agilis (Shuckard) sp. rev.

[Pompilus exaltatus (Fabricius) var. B sensu Vander Linden, 1827: 334. Misidentification.]

[Pompilus exaltatus (Fabricius) var. B sensu Shuckard, 1837: 67. Misidentification.]

Pompilus agilis Shuckard, 1837: 251. LECTOTYPE Q, GREAT BRITAIN (BMNH), here designated [examined].

Priocnemis obtusiventris Schiødte, 1837: 329. Type-material not located, presumed lost, DENMARK.

Priocnemis agilis (Shuckard); Dahlbom, 1842: 10. [Lists P. obtusiventris as a synonym.]

Priocnemis obtusiventris Schiødte; Dahlbom, 1843: 115. [Lists "Pompili exaltati var. agilis Shuck." as a synonym.]

Priocnemis obtusiventris Schiødte; Kloet & Hinks, 1945: 318.

P. agilis Shuckard. Shuckard's collection is lost; however, he examined material from many contemporary collections, including that of Stephens. One of several females of P. agilis in the BMNH collection, each originally from Stephens, bears a printed label 'agilis'. There is no positive

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evidence that the specimen was extant at the time of description but, in the absence of evidence to the contrary, I have labelled and here designate as lectotype the specimen referred to above.

P. obtusiventris Schiødte. Material from Schiødte's collection in Copenhagen bears no locality data or date and is thought by Drs Petersen and Lomholdt to post-date description. I have seen a female and male which agree with the description and long-standing interpretation of this species.

An advertisement on the flyleaf of Shuckard's work gives strong presumptive evidence that the work was published before 1st May, 1837, and probably before 1st March, 1837. Richards (1935:160) quotes F. J. Griffin, who gives as the date 2nd January, 1837. Schiødte's paper was published in the third of four parts of Krøyer's *Naturhistorisk Tidsskrift*; in the absence of any inferential evidence, it must be presumed to date from 31st December, 1837. Shuckard's name thus has priority.

#### Priocnemis (Priocnemis) cordivalvata Haupt

Priocnemis cordivalvatus Haupt, 1927: 120. LECTOTYPE &, GERMANY (EAST) (MLU, Halle), here designated [examined].

Priocnemis cordivalvatus Haupt; Kloet & Hinks, 1945: 318.

Haupt described from a male and four female syntypes, of which I have seen all save one female. Two females and the male each bear Haupt's determination label and an orange-brown 'Type' label. I have labelled and here designate as lectotype the male specimen, which has been figured.

#### Priocnemis (Priocnemis) exaltata (Fabricius)

Sphex exaltata Fabricius, 1775 : 351. LECTOTYPE ♀, EUROPE ('Habitat in Europa') (UZM, Copenhagen), here designated [examined].

Sphex revo Harris, 1780: 95, pl. 28. Type-material not located, presumed lost, Great Britain. [Synonymy in Dalla Torre, 1897: 221.]

Priocnemis exaltatus (Fabricius); Kloet & Hincks, 1945: 318.

Richards (1935: 159) examined four possible syntypes, three females and a male, all of which are conspecific. Van der Vecht has labelled as lectotype the sole female bearing a determination label (possibly not in Fabricius's hand). I have labelled and here designate as lectotype the same female specimen, which agrees with current interpretation.

#### Priocnemis (Priocnemis) fennica Haupt

[Priocnemis notatus (Rossius) var. B sensu Schiødte, 1837: 327. Misidentification.]

[Salius (Priocnemis) notatulus Saunders, 1896: 68; 3, partim. Misidentification.]

Priocnemis femoralis forma fennica Haupt, 1927:113. Lectotype 9, Finland (ZMU, Helsinki), by designation of Wolf (1967:21) [examined].

[Priocnemis femoralis (Dahlbom) sensu Šustera, 1938: 204. Misidentification.]

[Priocnemis femoralis (Dahlbom) sensu Kloet & Hincks, 1945: 318; partim. Misidentification.]

Priocnemis fennica Haupt; Blüthgen, 1952b: 15.

Haupt refers to a female and a male in Nordström's collection and a female from Parnå in Forsius's collection. In the collections at Helsinki are a female and male from Karislojo (collected by Forsius) and a female from Parnå (collected by Nordström). Haupt appears to have confused collectors and localities. Wolf designated as lectotype the female from Parnå, collected by Nordström; this specimen bears Wolf's label.

A female and a male in the collections in Prague bear Sustera's labels; they agree with Blüthgen's account of Sustera's interpretation (see also notes under *P. hyalinata*).

This species is here recorded as a British insect for the first time (see also under P. hyalinata).

# Priocnemis (Priocnemis) gracilis Haupt

Priocnemis gracilis Haupt, 1927: 120. Lectotype ♀, Germany (East) (MLU, Halle), by designation of Wolf (1963: 134) [examined].

Priocnemis gracilis Haupt; Kloet & Hincks, 1945: 318.

Haupt described from five females and two males. Wolf designated a female 'lecto-holotypus', although the male subgenital plate had been figured by Haupt.

#### Priocnemis (Priocnemis) hyalinata (Fabricius) comb. n.

Sphex hyalinatus Fabricius, 1793: 212. Holotype &, Europe (UZM, Copenhagen) [examined].

[Pompilus notatus (Rossius) sensu Vander Linden, 1827: 317. Misidentification.]

Pompilus femoralis Dahlbom, 1829: 13. Lectotype &, Sweden (UZI, Lund), by designation of Blüthgen (1952b: 14) [examined]. Syn. n.

Priocnemis femoralis (Dahlbom); Dahlbom, 1843: 109; 3.

Salius (Priocnemis) notatulus Saunders, 1896: 68; pl. 10, fig. 1. LECTOTYPE &, GREAT BRITAIN (UM, Oxford), here designated [examined]. Syn. n.

Priocnemis femoralis (Dahlbom); Haupt, 1927: 111.

Priocnemis pseudofemoralis Šustera, 1938: 204. LECTOTYPE ♀, CZECHOSLOVAKIA (NMNH, Prague), here designated [examined]. [Synonymy with P. femoralis by Blüthgen (1952b: 13).]

Priocnemis femoralis (Dahlbom); Kloet & Hincks, 1945: 318; partim.

Sphex hyalinata F. A single male stands under this name in the Fabrician collection in Copenhagen; it bears a hand-written label, 'hyalinata'. Although in poor condition, it is readily identifiable as the species of *Priocnemis* here treated. Previously, the name has been used as a valid name for *Caliadurgus fasciatellus* (Spinola), q.v.

P. femoralis Dahlbom. The single male, in good condition, bears a red 'typ' label and a label in Dahlbom's handwriting, 'Pr. femoralis Dlbm (notatus V.D.L., Sch, Shuck non Sph. notata Rossi)'. The label must post-date description but this need not exclude the specimen from status as primary type. Blüthgen designated this specimen 'lecto-holotypus' (1952b: 15); it is not so

labelled and need not have been so designated.

S. notatulus Saunders. Saunders proposed this name as a 'nom. nov.' for 'Salius notatus of authors, nec Rossi'. It is clear from the description that he did not discriminate the two components of his mixed species, P. hyalinata and P. fennica. The figure clearly is of a male of the species here called hyalinata. Only one specimen of many of both sexes in the collections at Oxford bears a label in Saunders's handwriting, 'Salius notatulus  $\mathcal{S}$ '; it is a male of P. fennica. I have labelled and here designate as lectotype the male specimen that agrees best with Saunders's figure (pl. 10, fig. 1); the name thus falls as a synonym of hyalinata. I have not sought to identify

and label all possible paralectotypes.

P. pseudofemoralis Sustera. I have examined 37 females and 41 males from the collections in Prague. Two females and seven males are of P. fennica, 31 females and 34 males are of P. hyalinata, and four females are of other species of Priocnemis. Several specimens were collected subsequent to Sustera's description and must be excluded from syntype status. Of the balance, several bear determination labels in Zavadil's handwriting. Only one specimen of each sex bears a label in Sustera's handwriting, 'Priocnemis pseudofemoralis Sust. \$\mathscr{Q}'\$, and the same, '\mathscr{Q}'\$. Both agree with the interpretation of Blüthgen (1952b) and the details given by Sustera. I have labelled and here designate as lectotype, the female bearing Sustera's label; this bears data 'CSR MORAVIA HRANICE V. ZAVADIL 7.7.1924'. I have labelled as paralectotype the male which bears Sustera's label and data 'CSR MORAVIA BZENEC V. ZAVADIL 28.7.1927'. I have labelled no further paralectotypes, though many of these specimens have such status. See also notes under P. fennica.

## Priocnemis (Priocnemis) parvula Dahlbom

Priocnemis parvulus Dahlbom, 1845: 460. Lectotype &, Sweden (UZI, Lund), by designation of Valkeila (1961: 3) [examined].

[Priocnemis minor (Zetterstedt) sensu Kloet & Hinks, 1945: 318. Misidentification.]

Valkeila (1960: 232) invalidly designated as 'lectotype' a female specimen from Dahlbom's collection; Dahlbom had described no female. In 1961 (p. 3) he designated as lectotype a single male specimen which bears Dahlbom's labels, which was in any case presumptive holotype.

## Priocnemis (Priocnemis) propinqua (Lepeletier)

Calicurgus propinquus Lepeletier, 1845: 410. LECTOTYPE ♀, FRANCE (MNHN, Paris), here designated fexamined].

Priocnemis propinquus (Lepeletier); Kloet & Hinks, 1945: 318.

Three conspecific female syntypes stand in the collection in Paris. I have labelled and here designate as lectotype the specimen which now bears Lepeletier's label.

As a British insect, this species is known only from two specimens collected by Miss Chawner in the New Forest before the turn of the century. One is in the UM, Oxford, the other in the collections of the British Entomological and Natural History Society. The male of this species is not yet described, though many females have been collected in northern France and Belgium (R. Wahis, personal communication). The possibility that this species is thelytokously parthenogenetic should not be ignored.

#### Priocnemis (Priocnemis) pusilla Schiødte

Priocnemis pusillus Schiødte, 1837: 327. Type-material not located, presumed lost, Denmark. Priocnemis pusillus Schiødte; Kloet & Hincks, 1945: 318.

I have seen two males from the Schiødte collection in Copenhagen which probably post-date description. They conform to current interpretation of the species.

#### Priocnemis (Priocnemis) schioedtei Haupt

Priocnemis schiödtei Haupt, 1927: 119. Syntypes ♀♂, EUROPE (MLU, Halle) [examined]. Priocnemis schiödtei Haupt; Kloet & Hincks, 1945: 318.

There is considerable ambiguity with regard to the type-material of this taxon. Haupt described from three females from localities in East and West Germany and a male from Innsbruck; he figured the male subgenital plate. I have seen a *female* from Innsbruck (labelled 'holotypus' by Haupt), a female from Manebach (one of the localities cited by Haupt) and a male of uncertain origin. The male bears an 'allotypus' label and a collection date post-dating description. I prefer to leave designation of a lectotype until the status of this male can be clarified.

The Manebach female bears other labels: 'holotypus', 'Priocnemis ambiguus Q Haupt det. 1943', 'schiödtei HAUPT var ambiguus HPT i. l. Heinrich Wolf det. 196'. This name was published by Wolf (1963: 130) as 'Priocnemis schiödtei var. ambiguus (Haupt i. l.) n. var.'. The name is unavailable under either alternative of the International Code of Zoological Nomenclature (Article 45d, name proposed expressly for a variety).

# Subgenus UMBRIPENNIS Junco

*Umbripennis* Junco, 1946: 145. Type-species: *Sphex fusca* Linnaeus sensu Fabricius, 1775 (misidentification) [= *Sphex perturbator* Harris, 1780].

# Priocnemis (Umbripennis) coriacea Dahlbom

Priocnemis coriaceus Dahlbom, 1843: 103. Holotype 3, Poland (UZI, Lund) [examined]. Priocnemis coriaceus Dahlbom; Kloet & Hinks, 1945: 318.

The single male in Lund bears Dahlbom's labels and agrees well with the description and with current interpretation.

# Priocnemis (Umbripennis) perturbator (Harris)

[Sphex fusca Linnaeus sensu Fabricius, 1775: 349 (partim). Misidentification.]

Sphex perturbator Harris, 1780: 95, pl. 28. Type-material not located, presumed lost, Great Britain.

Pompilus sepicola Smith, 1851: 14. LECTOTYPE \( \rightarrow \), Great Britain (BMNH), here designated [examined].

Syn. n.

Priocnemis perturbator Harris; Kloet & Hincks, 1945: 318.

S. perturbator Harris. No material of Harris's survives. It is probable that he had material of two closely related species, P. perturbator and P. susterai Haupt. However, I believe that workers will continue to follow current interpretation of Harris's species without the need to designate a neotype specimen; P. perturbator is the most widely distributed of the two in the British Isles.

P. sepicola Smith. Smith proposed P. sepicola for the species misidentified by Fabricius as Sphex fusca Linnaeus, following an examination of the Linnaean material of the latter in Burlington House. He stated that P. sepicola was widely distributed. One female specimen in the BMNH and three females ex Smith's collection, now also in BMNH, may be regarded as original syntypes. Further specimens ex Stephens's and Hope's collections might also be so regarded. Specimens both of P. perturbator and P. susterai are represented. I have labelled and here designate as lectotype the female from BMNH collections first mentioned, which is a specimen of P. perturbator as currently understood. P. sepicola thus falls as a synonym, preserving usage of P. susterai.

## Priocnemis (Umbripennis) susterai Haupt

[Sphex fusca Linnaeus sensu Fabricius, 1775: 349 (partim). Misidentification.]

[Pompilus sepicola Smith, 1851: 14 (partim). Misidentification.]

Priocnemis susterai Haupt, 1927: 97; &. Lectotype &, Germany (East) (MLU, Halle), by designation of Blüthgen (1952a: 129) [examined].

Priocuemis clementi Haupt, 1927: 100; ♀, ♂. Lectotype ♂, Austria (MLU, Halle), by designation of Blüthgen (1952a: 130) [examined]. [Synonymy by Blüthgen (1952a: 129).]

Priocnemis clementi Haupt; Perkins, 1945: 153. [British record.]

The females associated by Haupt with the male of *P. susterai* are females of *P. enslini* Haupt. The females and males described as *P. clementi* are conspecific.

#### Genus CALIADURGUS Pate nom. rev.

Calicurgus Lepeletier, 1845: 397. Type-species: Pompilus fasciatellus Spinola, 1808, by subsequent designation (Kohl, 1884: 45). [Junior homonym of Calicurgus Brullé, 1833: 364.]

Caliadurgus Pate, 1946: 78. Type-species: Pompilus fasciatellus Spinola, 1808 (not Sphex hyalinata Fabricius as stated by Pate). [Replacement name for Calicurgus Lepeletier.]

Calicurgus Lepeletier; Townes, 1951: 915.

Pate proposed Caliadurgus as a replacement name for Calicurgus Lepeletier, citing 'Sphex hyalinata F.' as type-species. However, S. hyalinatus F. is a species of Priocnemis. Pate's genus, proposed expressly as a replacement name for a junior homonym, has ipso facto as type-species that of the genus-name replaced; in this case, P. fasciatellus Spinola.

Townes (1951) argued that the first employment of Calicurgus by Brullé was a mention in the synonymy of Pompilus Fabricius, that Brullé's name was thus unavailable and did not invalidate the subsequent proposal of Calicurgus by Lepeletier. Unfortunately I cannot agree with this interpretation; under a discussion of the species P. annulatus F., Brullé gives characters which define a group of species which might be segregated from Pompilus as a discrete genus, for which he stated that Lepeletier had in manuscript the name Calicurgus. P. annulatus was the only species included by Brullé. In his discussion of P. rufipes L., Brullé states that 'cette espèce et la suivant (P. inermis Brullé), appartiennent au vrai genre Pompilus dans les travaux de M. Lepeletier de St. Fargeau'. Unfortunate though this prior usage may be, I believe it to be valid; in no manner does Brullé suggest that he rejects the name. Rather, it should be considered a conditional proposal. Since a suitable replacement name is available, and because the valid name of the well-known Holarctic type-species must in any case change, I have no hesitation in employing Caliadurgus for this genus. It is widely distributed also in the Neotropics and the Oriental and Indonesian regions.

#### Caliadurgus fasciatellus (Spinola) sp. rev.

Pompilus fasciatellus Spinola, 1808: 37. Holotype ♀, ITALY (MIZSU, Turin) [examined]. [Pompilus hyalinatus (Fabricius) sensu Vander Linden, 1827: 316. Misidentification.] [Calicurgus hyalinatus (Fabricius) sensu Kloet & Hincks, 1945: 318. Misidentification.]

A female and a male stand next to a label 'Priocnemis fasciatellus (Pompilus) m. Liguria' in the Spinola collection in Turin. Labels of two other females bear data post-dating description. The male is a *Priocnemis*, probably *P. mimula* Wesmael, and is mounted on a pin of a type different from the first female; no male was in any case described. I have labelled the first as holotype of *P. fasciatellus*.

#### Genus DIPOGON Fox

Dipogon Fox, 1897: 241. Type-species: Dipogon populator Fox, 1897, by original designation and monotypy.

Recent authors have treated this generic name as though it were neuter; however, it is masculine. The nominate subgenus is predominantly of New World distribution; in Britain, a holarctic subgenus is represented.

## Subgenus DEUTERAGENIA Šustera

Agenia Schiødte, 1837: 321. Type-species: Sphex variegata Linnaeus, 1758, by subsequent designation (Westwood, 1840: 82). [Junior homonym of Agenia Descourtilz, 1825.]

Deuteragenia Šustera, 1912: 191. [Replacement name for Agenia Schiødte.]

#### Dipogon (Deuteragenia) bifasciatus (Geoffroy)

Iclineumon bifasciatus Geoffroy in Fourcroy, 1785: 405. Holotype \( \bar{C}, France (MNHN, Paris) \) [examined]. Pompilus hircanus Fabricius, 1798: 251. Lectotype \( \bar{C}, Europe (UZM, Copenhagen), by designation of Wahis (1974: 340) [not examined]. Syn. n.

Deuteragenia intermedia (Dahlbom); Kloet & Hincks, 1945: 318.

Van der Vecht (1960: 4) pointed out that Sphex bifasciata Fabricius, 1793, was not a valid species. but a subsequent citation of Ichneumon bifasciatus Geoffroy, 1785. The taxon is presumed to be based on material from the environs of Paris, and van der Vecht suggested that Fabricius may have seen original material, possibly via Bosc. Van der Vecht was not able to establish the identity of the species, but stated that the name should be applied in Dipogon. He referred to Berland (1925: 226), who had examined 'le type de Fabricius'. Perhaps van der Vecht was misled by the existence of a female Dipogon in the Fabrician collection, Copenhagen, labelled 'bifasciatus' (teste Wahis, 1974: 337). This was not, however, the specimen referred to by Berland; he had examined a headless female specimen in the Bosc collection in Paris, and affixed a 'type' label. However, he misidentified the female as 'D. hircana' sensu authors, whereas it is a female of the true hircana Fabricius, the species otherwise referred to by Berland as D. intermedia Dahlbom. Wolf (1964: 13) referred to van der Vecht's work, but did not realize that the identity of the species was in doubt. Wahis (1974: 337) summarized the position and pointed out that D. bifasciatus, which must have been based on one or more species of Dipogon common near Paris, was currently applied to a species which was rare in western Europe and only doubtfully recorded from France. He examined and identified the specimens in Copenhagen and Paris seen by Fabricius, but did not associate the Paris specimen with Geoffroy. I see every advantage in interpreting this specimen from the Bosc collection as holotype of Ichneumon bifasciatus Geoffroy, and the name is here employed in conformity with the identity of this specimen. 'D. bifasciatum' sensu authors appears to be an undescribed species and is treated further below.

# Dipogon (Deuteragenia) nitidus (Haupt)

Deuteragenia nitida Haupt, 1927:138. Lectotype ♀, Austria (MLU, Halle), by designation of Wolf (1964:14) [examined].

[Deuteragenia hircana (Fabricius) sensu Kloet & Hincks, 1945: 318. Misidentification.]

Wolf (1964) is ambiguous in his treatment of the type-material of this species, based by Haupt on a female and male from Vienna collected by Fahringer. Wolf refers to a '\top Holotypus' and '\top Allotypus'. It seems convenient to regard this reference as a valid type-restriction.

## Dipogon (Deuteragenia) variegatus (Linnaeus)

Sphex variegata Linnaeus, 1758: 570. Lectotype Q, Sweden (CLS, London), by designation of Day (in press).

Deuteragenia variegata (Linnaeus); Kloet & Hincks, 1945: 318.

I have elsewhere designated a lectotype for this taxon, in order to maintain existing usage.

## Dipogon (Deuteragenia) vechti sp. n.

[Agenia bifasciata ('Fabricius') sensu Dahlbom, 1843: 80. Misidentification.]
[Pogonius bifasciatus ('Fabricius') sensu Dahlbom, 1845: 454. Misidentification.]
[Deuteragenia bifasciata ('Fabricius') sensu Haupt, 1927: 135. Misidentification.]
[Dipogon (Deuteragenia) bifasciatum (Geoffroy) sensu Wolf, 1964: 12. Misidentification.]
[Dipogon (Deuteragenia) bifasciatum (Geoffroy) sensu Wahis, 1974: 337. Misidentification.]

Many other authors have referred to this species as *D. bifasciatus*. Only the most important references have been cited. Good figures, or descriptions, or keys, can be found in each of the above works; the figures numbered 6 and 15 in Wolf (1964), of the wing venation and patterning, and the male terminalia, are diagnostic. Van der Vecht (1964: 4) first indicated that there was confusion about the identity of *D. bifasciatus* (see discussion under that species). Dahlbom appears to have been first to misapply the name, and has subsequently always been followed.

It seems not to have been appreciated that *D. vechti* is most closely related to the Nearctic *D. sayi* Banks, and possibly also to *D. nipponica* Yasumatsu. It is not a British insect and is not common in continental western Europe.

#### MATERIAL EXAMINED

Holotype ♀, U.S.S.R.: Siberia, Amur (Higgins) (BMNH).

Paratypes. U.S.S.R.: 1 \( \text{Q}, \) same data as holotype (BMNH). Germany (East): 1 \( \delta, \) Saaletal, Schönburg (Bl\( \text{litthgen} \)) (colln R. Wahis).

#### Tribe AGENIELLINI Banks

Ageniellini Banks, 1912: 222. Type-genus: Ageniella Banks, 1912: 222.

Macromerinae Haupt, 1927: 23. Type-genus: *Macromeris* Lepeletier, 1831: 29. Pseudageninae Banks, 1934: 31. Type-genus: *Pseudagenia* Kohl, 1884: 38.

Auplopodini Pate, 1946: 117. Type-genus: Auplopus Spinola, 1841: 108.

## Genus AUPLOPUS Spinola

Auplopus Spinola, 1841: 108. Type-species: Pompilus femoratus Fabricius, 1804, by monotypy.

Pseudagenia Kohl, 1884: 38, 42. Type-species: Sphex carbonaria Scopoli, 1763, by original designation.

[Synonymy with Auplopus by Pate, 1946: 116.]

# Auplopus femoratus (Fabricius)

Pompilus femoratus Fabricius, 1804:190. LECTOTYPE ♀, South America Meridionali' (UZM, Copenhagen), here designated [examined].

The type-material consists of three females, two in Copenhagen and one in Kiel (currently also housed in Copenhagen). One bears a hand-written label (probably Fabricius's) 'P. femoratus Am. mer. Schmidt', a red label printed 'type', a label in Dahlbom's handwriting 'Agenia femoratus Dahlbom H.E. 455 8 \Q' and a label written by van der Vecht. The second Copenhagen specimen bears a red 'type' label; the third bears a label 'femorata'. I have labelled and here designate as lectotype the first female referred to above.

I have examined the material in the Spinola collection (MIZSU, Turin) on which Spinola based Auplopus. Six females, two of which stand over a hand-written label 'Agenia femorata var. Cayenne', appear to be conspecific with the type-material of *P. femoratus* Fabricius. I have no doubt that the name Auplopus is currently correctly applied as a valid name for this group, which contains one British species.

#### Auplopus carbonarius (Scopoli)

Sphex carbonaria Scopoli, 1763: 294. Type-material lost, Yugoslavia. Pseudagenia carbonaria (Scopoli); Kloet & Hinks, 1945: 318.

## Subfamily POMPILINAE Latreille

Pompilii Latreille, 1805: 277. Type-genus: Pompilus Fabricius, 1798: 212.

#### Genus POMPILUS Fabricius

Pompilus Fabricius, 1798: 212. Type-species: Pompilus pulcher Fabricius, 1798 [= Sphex cinerea Fabricius, 1775], by subsequent designation (I.C.Z.N. Opinion 166, 1945).

### Pompilus cinereus (Fabricius)

Sphex cinerea Fabricius, 1775: 350. Holotype ♀, Australia (BMNH) [examined].

Sphex plumbea Fabricius, 1787: 278. Holotype ♀, Spain (UZM, Copenhagen) [examined]. [Synonymy by Evans, 1972: 11.]

Pompilus pulcher Fabricius, 1798: 249. Type-material not located, presumed lost, ITALY. [Synonymy by Evans, 1972: 11.]

*Pompilus pulcher* Fabricius; Coquebert, 1801: pl. 12, figs 8a, 8b. [Good figures, believed to be of primary type-material of *P. pulcher* Fabricius.]

Pompilus plumbeus (Fabricius); Kloet & Hincks, 1945: 318.

It is unfortunate that the type-material of the species selected by the International Commission on Zoological Nomenclature to be type-species of *Pompilus* and thus of Pompilidae is lost.

Modern interpretations of the genera of Pompilidae restrict *Pompilus* to a small group of species, of which only one is British. Other British species previously placed in *Pompilus* are distributed among other genera.

#### Genus AGENIOIDEUS Ashmead

Agenioideus Ashmead, 1902: 85. Type-species: Pompilus humilis Cresson, 1867, by original designation.

The nominate subgenus is not yet known from the British Isles, but is represented on the Channel Islands by A. sericeus (Vander Linden). The sole British species is currently placed in another subgenus.

# Subgenus GYMNOCHARES Banks

Gymnochares Banks, 1917: 107. Type-species: Psammochares birkmanni Banks, 1910, by subsequent designation (Pate, 1946: 88).

# Agenioideus (Gymnochares) cinctellus (Spinola)

Pompilus cinctellus Spinola, 1808: 39. LECTOTYPE ♀, ITALY (MIZSU, Turin), here designated [examined].

Pompilus cinctellus Spinola, Kloet & Hincks, 1945: 318.

Two females stand against a label 'Pompilus cinctellus m. Ins. Lig. Liguriae' in the Spinola collection at Turin. A third female is from Scandinavia and post-dates description. I have labelled and here designate as lectotype the better preserved of the first two specimens, which conforms to the current interpretation of this species.

# Agenioideus (Gymnochares) apicalis (Vander Linden)

Pompilus apicalis Vander Linden, 1827: 312. Holotype ♀, France (IRSNB, Brussels) [teste Wahis, 1955: 11].

Pompilus acuminatus Smith, 1851:119. Holotype &, Europe, provenance erroneously? reported as Scotland (UM, Oxford) [examined]. [Synonymy by Day, 1972:70.]

[Pompilus sericeus Vander Linden sensu Kloet & Hincks, 1945: 318, Misidentification.]

I have given reasons (Day, 1972) for believing that the type-material on which this taxon was based was of European origin. Saunders (1896: 58) placed *P. acuminatus* in the synonymy of *P. sericeus* and recorded the latter species as a British insect. However, *P. acuminatus* is correctly a synonym of *A. apicalis* Vander Linden; I have declined to include this name in the list of British species since the two known specimens are of doubtful provenance.

Agenioideus sericeus (Vander Linden) occurs in the Channel Islands.

#### Genus ARACHNOSPILA Kincaid

Arachnospila Kincaid, 1900: 509. Type-species: Arachnospila septentrionalis Kincaid, 1900 [=Pompilus fumipennis Zetterstedt, 1838], by monotypy.

#### Subgenus ARACHNOSPILA Kincaid

Arachnospila Kincaid, 1900: 509.

#### Arachnospila (Arachnospila) rufa (Haupt)

[Pompilus fumipennis Zetterstedt sensu Dahlbom, 1843: 76. Misidentification.]

Psammochares (Psammochares) rufus Haupt, 1927: 197. LECTOTYPE &, Germany (East) (MLU, Halle), here designated [examined].

Pompilus rufus (Haupt); Kloet & Hincks, 1945: 318.

Haupt proposed *P. rufus* as a 'nom. nov.' for the species misidentified by Dahlbom as *P. fumipennis*; it was of course a description of a new species rather than a new name. He designated no primary type. I have seen material from Haupt's collection; I have labelled and here designate as lectotype a male which bears Haupt's determination label and collection data predating description. It was collected at Gräfenhainichen, 21.v.1925, possibly by Haupt himself. This specimen conforms to current usage.

## Subgenus ANOPLOCHARES Banks

Anoplochares Banks, 1939: 225. Type-species: Pompiloides rectus Banks, 1914 [=Pompilus apicatus Provancher, 1882], by original designation.

# Arachnospila (Anoplochares) minutula (Dahlbom)

*Pompilus minutus* Dahlbom, 1829: 3. Type-material not located, presumed lost, Sweden. [Junior primary homonym of *P. minutus* Vander Linden, 1827.]

Pompilus minutulus Dahlbom, 1842:10. [Replacement name for P. minutus Dahlbom.]

Pompilus minutulus Dahlbom; Kloet & Hincks, 1945: 318.

# Arachnospila (Anoplochares) spissa (Schiødte)

Pompilus spissus Schiødte, 1837: 336. Type-material not located, presumed lost, Denmark. Pompilus spissus Schiødte; Kloet & Hincks, 1945: 318.

Specimens in Schiødte's collection (UZM, Copenhagen) agree with current interpretation, but are thought by Drs Petersen and Lomholdt to post-date description.

## Subgenus AMMOSPHEX Wilcke

Ammosphex Wilcke, 1942: 25. Type-species: Pompilus unguicularis Thomson, 1870 [=Pompilus anceps Wesmael, 1851], by original designation.

Anopompilinus Dreisbach, 1949: 7. Type-species: Anopompilinus michiganensis Dreisbach, 1949, by monotypy. [Synonymy by Evans (1951: 227).]

Boreopompilus Wolf, 1965: 88, 101 (as subgenus of Pompilus). Type-species: Pompilus trivialis Dahlbom, 1843, by original designation. Syn. n.

Other subgeneric names of uncertain value are currently employed for non-British species, but are not considered further here. *Anopompilinus* has as type-species a species placed in *Boreo-pompilus* by Wolf.

## Arachnospila (Ammosphex) anceps (Wesmael)

[Sphex gibba Linnaeus sensu Fabricius, 1775: 350. Misidentification.]

? Sphex vagus Harris, 1780:95. Type-material not located, presumed lost, Great Britain. [Junior primary homonym of Sphex vaga Linnaeus, 1758 [= Mellinus arvensis Linnaeus, 1758 (Sphecidae)].]

[Pompilus gibbus (Linnaeus) sensu Fabricius, 1798: 249. Misidentification.]

[Pompilus trivialis Dahlbom, 1843: 65. Mixed series, see notes under A. trivialis. Misidentification.]

Pompilus anceps Wesmael, 1851:463, ♀. Lectotype ♀, Belgium (IRSNB, Brussels), by designation of Wahis (1957:5) [not examined].

[Pompilus abnormis Dahlbom sensu Wesmael, 1851: 464; &. Misidentification.]

Pompilus unguicularis Thomson, 1870: 221; ♀. LECTOTYPE ♀, SWEDEN (ZI, Lund), here designated [examined]. [Synonymy by Wahis (1957: 5).]

[Pompilus trivialis Dahlbom sensu Thomson, 1870: 221; & Misassociation of sexes. Misidentification.] Pompilus unguicularis Thomson; Saunders, 1896: 56, 64; \( \varphi \).

[Pompilus gibbus (Linnaeus) sensu Fabricius; Saunders, 1896: 56, 64; &. Misidentication.]

Psanumochares (Psammochares) unguicularis (Thomson); Haupt, 1927: 155, 201; \(\varphi\).

[Psammochares (Psammochares) gibbus (Linnaeus) sensu Fabricius; Haupt, 1927: 164, 204; 3. Misidentification.]

[Pompilus trivialis Dahlbom sensu Spooner, 1941: 85; \, \, \, \, Misidentification.]

Ammosphex unguicularis (Thomson); Wilke, 1942: 27; ♀, ♂.

[Pompilus trivialis Dahlbom sensu Kloet & Hincks, 1945: 318. Misidentification.]

Pompilus anceps Wesmael; Wahis, 1957: 5.

Arachnospila (Ammosphex) anceps (Wesmael); Priesner, 1966: 190.

P. unguicularis Thomson. Wesmael's P. anceps was misidentified by Thomson (see below) who listed the species as a synonym of P. trivialis. He proposed P. wesmaeli for the species that he believed Wesmael had misidentified as P. trivialis. However, Wesmael had not done so (see synonymy and lectotype designation for P. trivialis and P. wesmaeli below). Thomson proposed P. unguicularis for a species which he believed Wesmael had failed to discriminate, in reality P. anceps.

Four females in the collections at Lund under the name *unguicularis*, one so labelled by Thomson, are all specimens of the species currently known as A. anceps. A male is a specimen of A. trivialis. I have labelled and here designate as lectotype the female bearing Thomson's label.

Sphex vagus Harris was probably a composite of several species of Pompilinae.

# Arachnospila (Ammosphex) consobrina (Dahlbom)

Pompilus ater Brullé, 1840:91. Holotype &, Canary Islands (MNHN, Paris) [examined]. [Junior primary homonym of P. ater Dahlbom, 1829.]

Pompilus consobrinus Dahlbom, 1843: 79. Lectotype &, Sweden (UZI, Lund), by designation of Blüthgen (1952b: 11) [examined].

Pompilus consobrinus Dahlbom; Kloet & Hincks, 1945: 318.

P. ater Brullé. A headless male type-specimen survives in Paris.

# Arachnospila (Ammosphex) trivialis (Dahlbom)

[Sphex gibba Linnaeus sensu Fabricius, 1775: 350. Misidentification.]

[Pompilus gibbus (Linnaeus) sensu Fabricius, 1798 : 249. Misidentification.]

Pompilus trivialis Dahlbom, 1843: 65. LECTOTYPE Q, SWEDEN (UZI, Lund), here designated [examined].

Pompilus trivialis Dahlbom; Wesmael, 1851: 462.

Pompilus trivialis Dahlbom; Thomson, 1870: 220; ♀.

[Pompilus unguicularis Thomson, 1870: 221; J. Misassociation of sexes. Misidentification.]

[Pompilus gibbus (Linnaeus) sensu Fabricius; Saunders, 1896: 57, 63; \( \rightarrow \). Misidentification.]

[Pompilus unguicularis Thomson sensu Saunders, 1896: 56, 64; ¿. Misidentification.]

[Psammochares (Psammochares) gibbus (Linnaeus) sensu Fabricius; Haupt, 1927: 156, 204; Q. Misidentification.]

[Psammochares (Psammochares) unguicularis (Thomson) sensu Haupt, 1927: 155, 201; ¿. Misidentification.]

[Pompilus unguicularis Thomson sensu Spooner, 1941:85; \, \, \, \tau. Misidentification.]

[Ammosphex gibba (Linnaeus) sensu Fabricius; Wilke, 1942: 28; \( \text{?}, \( \text{d}. \) Misidentification.]

Anmosphex trivialis (Dahlbom); Wilke, 1943: 56; \$\varphi\$, \$\delta\$. [Pompilus unguicularis Thomson sensu Kloet & Hincks, 1945: 318. Misidentification.]

P. trivialis Dahlbom. Early authors were familiar with a common red and black pompilid which was invariably misidentified as Sphex gibba (or Pompilus gibbus) Fabricius. This name is in fact a Linnaean name and applies to a bee, Sphecodes gibbus (Linnaeus); the 'pompilid' was a composite of several species. Dahlbom recognized that no name was available for this 'species' and thus described P. trivialis. However, he described it from a mixed series of two of the species which had probably always been confused under Sphex gibba by previous authors. Probably syntypic material in the collections at Lund consists of two females and a male of one species and two females of another.

Wesmael (1851: 463) recognized the problem and segregated the females of this complex. However, he identified the male of one as *P. abnormis* Dahlbom, but probably associated correctly the sexes of the other. He records that a specimen sent to him as *P. trivialis* by Dahlbom was in fact *P. chalybeatus* Dahlbom (= Anoplius infuscatus (Vander Linden)). He applied the name *P. trivialis* to one component of the complex (that for which he associated both sexes), and described the other as *P. anceps*. Wahis fixed the identity of *P. anceps* when he discovered type-material and designated a lectotype.

The two females and the male of the first species mentioned as in the Lund collection are specimens of *P. anceps*. I have therefore labelled and here designate as lectotype of *P. trivialis* one of the two females of the second species. This both fixes the identity in accord with current interpretation and agrees with the conclusions of Wesmael, who was the first reviser.

#### Arachnospila (Ammosphex) wesmaeli (Thomson)

Pompilus wesmaeli Thomson, 1870: 221. LECTOTYPE &, SWEDEN (UZI, Lund), here designated [examined].

Pompilus wesmaeli Thomson; Kloet & Hincks, 1945: 318.

A mixed series of specimens from the collections at Lund which stand under the label 'wesmaeli Thomson' consists of females of A. anceps, Evagetes pectinipes and one female possibly of A. wesmaeli. One female of A. anceps bears a Thomson label 'wesmaeli'. A single male specimen, pinned below the female E. pectinipes, agrees well with Thomson's description of the male. I have labelled and here designate as lectotype this male specimen.

Thomson proposed P. wesmaeli for the species he believed Wesmael had misidentified as P. trivialis Dahlbom.

#### Genus EVAGETES Lepeletier

Evagetes Lepeletier, 1845: 390. Type-species: Evagetes bicolor Lepeletier, 1845 [= Aporus dubius Vander Linden, 1827], by monotypy.

Psammocharoides Mócsár, 1946: 114. Type-species: Pompilus crassicornis Shuckard, 1837, by original designation. [Synonymy with Sophropompilus Ashmead by Mócsár, 1956: 8.]

Streptosella Dreisbach, 1950: 570. Type-species: Streptosella steyskali Dreisbach, 1950 [=Pompilus crassicornis Shuckard, 1837], by subsequent designation (Evans, 1951: 310). [Synonymy by Evans (1951: 310).]

Carinevagetes Wolf, 1970: 52. Type-species: Pompilus crassicornis Shuckard, 1837, by original designation. Syn. n.

Other names are also currently regarded as synonyms of *Evagetes*, but only those based on type-species that occur in Britain are here listed. Some others are currently employed as subgeneric names for very limited groups of species. Assessment of the value of these must await more detailed treatment.

#### Evagetes crassicornis (Shuckard)

Pompilus crassicornis Shuckard, 1837: 63. Type-material not located, presumed lost, Great Britain.

Pompilus crassicornis Schiødte, 1837: 335. Type-material not located, presumed lost, Denmark. [Junior primary homonym of *Pompilus crassicornis* Shuckard, 1837.]

Pompilus crassicornis Shuckard; Kloet & Hincks, 1945: 318.

The dates of publication of the works in which Shuckard's and Schiødte's species were described are discussed under *Priocnemis agilis*.

E. crassicornis has frequently been misidentified in Britain as E. pectinipes Linnaeus.

#### Evagetes dubius (Vander Linden)

[Aporus bicolor Spinola, 1808: 34; \( \rightarrow\), partim. Misidentification.]

Aporus ? dubius Vander Linden, 1827: 351. Type-material not located, presumed lost, Belgium.

Evagetes bicolor Lepeletier, 1845: 390. LECTOTYPE &, France (MNHN, Paris), here designated [examined]. [Synonymy implied by Lepeletier, 1845: 390.]

Evagetes dubius (Vander Linden); Kloet & Hincks, 1945: 318.

A. dubius. A female in the collection of the IRSNB, Brussels, has been considered by Richards (1935: 161) and Wahis (1955: 9) to be the probable type of A. dubius. However, Vander Linden clearly refers to specimens of both sexes and states 'mon cabinet'. The female here considered is mounted in a manner and bears labels exactly similar to those borne by three specimens of A. femoralis Vander Linden which are here excluded from type-status on other criteria (see Aporus unicolor). These specimens (A. dubius and A. femoralis) were probably collected by Wesmael and post-date description. However, the question is academic, since the putative type-specimens of both species agree with current interpretation.

E. bicolor Lepeletier. Two female and three male specimens, conspecific, stand under this name in Lepeletier's collection. I have labelled and here designate as lectotype the male which agrees best with the original figure.

## Evagetes pectinipes (Linnaeus)

Sphex pectinipes Linnaeus, 1758: 570. Holotype Q, Sweden (CLS, London) [examined].

Mr K. Guichard took a male on dunes at Deal in Kent during 1966. Mr Guichard and Mr G. Else took a series of both sexes at the same locality on various dates during 1975: the species appears to be well established. It is a new addition to the British list.

The name P. pectinipes (L.) has often appeared in lists of British species as a misidentification of P. crassicornis Shuckard.

#### Genus ANOPLIUS Dufour

Psammochares Latreille, 1796: 115. Type-species: Sphex fusca Linnaeus, 1761, by subsequent designation (Latreille, 1803: 158). [Suppressed by I.C.Z.N. Opinion 166, 1945.]

Anoplius Dufour, 1834: 483. Type-species: Sphex nigerrima Scopoli, 1763, by subsequent designation (Van der Vecht & Menke, 1968: 120); ratified by I.C.Z.N. Opinion 997, 1973.

#### Subgenus ANOPLIUS Dufour

Anoplius Dufour, 1834: 483.

# Anoplius (Anoplius) caviventris (Aurivillius)

Pompilus caviventris Aurivillius, 1907: 10. Holotype &, SWEDEN (NR, Stockholm) [examined].

Pompilus cardui Perkins, 1917: 10. LECTOTYPE &, GREAT BRITAIN (BMNH), here designated [examined].

[Synonymy by Chambers (1948: 232).]

[Anoplius piliventris (Morawitz) sensu Kloet & Hincks, 1945: 318. Misidentification.]

Perkins described from a male collected in the Forest of Dean (now in the Cambridge Museum, U.K.) and a male and female bred from the stems of thistles at Stanmore, Middlesex (now in BMNH). I have labelled and here designate as lectotype, the male from Stanmore.

I have examined the holotype of *Pompilus piliventris* Morawitz. It is a male of the species currently known as *Anoplius pannonicus* Wolf, 1965. This synonymy is formalized below, although the species is not yet recorded from Britain.

## Anoplius (Anoplius) piliventris (Morawitz) sp. rev.

Pompilus piliventris Morawitz, 1889: 122. Holotype &, China (ZI, Leningrad) [examined]. Anoplius pannonicus Wolf, 1965: 94. Holotype &, Hungary (TM, Budapest) [not examined]. Syn. n.

Recent continental authors have placed this name as a synonym of *Anoplius tenuicornis* (Tournier, 1889), over which the name *piliventris* would have had priority were the synonymy correct!

#### Anoplius (Anoplius) concinnus (Dahlbom)

Pompilus concinnus Dahlbom, 1845: 444. Type-material not located, presumed lost, Finland, Germany.

Pompilus approximatus Smith, 1877: 64. LECTOTYPE ♀, Scotland (UM, Oxford), here designated [examined]. [Synonymy by Haupt (1927: 243).]

Anoplius concinnus (Dahlbom); Kloet & Hincks, 1945: 318.

P. approximatus Smith. Two females in the collections of UM, Oxford standing over the name 'approximatus' bear data compatible with that given by Smith. The larger specimen bears a label 'Thornhill Dumfries Sept. 30th. Mr Sharp', the smaller simply 'Dumfries Sept, 1874'. The specimens are conspecific and clearly identifiable as A. concinnus. I have labelled and here designate as lectotype the larger specimen.

#### Anoplius (Anoplius) nigerrimus (Scopoli)

Sphex nigerrima Scopoli, 1763: 295. Neotype ♀, Switzerland (RNH, Leiden), designated by Van der Vecht & Menke (1968: 123) [examined].

Anoplius nigerrimus (Scopoli); Kloet & Hincks, 1945: 318.

## Subgenus ARACHNOPHROCTONUS Howard

Psammochares Latreille, 1796: 115. Type-species: Sphex fusca Linnaeus, 1761, by subsequent designation (Latreille, 1803: 158). [Suppressed by I.C.Z.N. Opinion 166, 1945.]

Arachnophroctonus Howard, 1901: pl. 17, figs 11, 14. Type-species: Sphex tropica Linnaeus sensu Fabricius, 1775 (misidentification) [=Pompilus semicinctus Dahlbom, 1843], by subsequent designation (Pate, 1946: 129).

# Anoplius (Arachnophroctonus) infuscatus (Vander Linden)

Pompilus infuscatus Vander Linden, 1827: 339. Type-material not located, presumed lost, ITALY.

Pompilus minor Herrich-Schaeffer, 1830: 117, pl. 19. Type-material not located, presumed lost, Germany.

[Senior primary homonym of P. minor Zetterstedt, 1838.] Syn. n.

Pompilus sericatus Shuckard, 1837: 60. Holotype &, Great Britain (UM, Oxford) [examined]. [Synonymy by Saunders, 1880: 236.]

Anoplius infuscatus (Vander Linden); Kloet & Hincks, 1945: 318.

The male of A. infuscatus is readily recognized by the noticeable emargination of the apparent fourth and the very strong emargination of the fifth sterna, but Vander Linden states fifth and sixth. However, were the sixth abdominal segment telescoped within the fifth, this discrepancy would easily be explained. It is most unlikely that this description applies to other than this very common pompilid, which is widely distributed in the western Palaearctic Region.

P. minor Herrich-Schaeffer was clearly described from a mixed series of material containing A. infuscatus and probably various species of Arachnospila (Ammosphex). The figure is of little value, but is certainly not of A. infuscatus. In order to protect various current names, I choose to sink P. minor in the synonymy of A. infuscatus. Unfortunately, P. minor is a senior primary homonym of P. minor Zetterstedt, 1838, a name currently employed for a European species of Priocnemis; no new name is here proposed.

P. sericatus Shuckard is represented in the Hope department collections in Oxford by a single

male which bears a label in Smith's handwriting 'Type- from Shuckard's collection- P. sericatus' (see Smith, 1858: 65).

#### Anoplius (Arachnophroctonus) viaticus (Linnaeus)

Sphex viatica Linnaeus, 1758: 570. Lectotype figure, in Frisch, 1721: pl. 1, fig. 13, Germany by designation of van der Vecht (1958: 47) [examined].

Sphex fusca Linnaeus, 1761: 412. Lectotype ♀, Sweden (CLS, London), by designation of Day (in press). Anoplius fuscus (Linnaeus); Kloet & Hincks, 1945: 318.

I believe the nomenclatural history of this name to be so involved that it will bear repetition of an account given elsewhere (Day, in press).

Linnaeus's Sphex viatica of 1758 was clearly a loose concept based on mixed observation of a common pompilid wasp currently known as Anoplius viaticus (L.), and the sphecid wasp currently known as Podalonia hirsuta (Scopoli), and possibly of other taxa. In 1761, Linnaeus differentiated between the pompilid and the sphecid by describing as new Sphex fusca. He added the word 'pubescens' to his earlier diagnosis of S. viatica, but did not eliminate inappropriate references formerly given with viatica which more properly related to S. fusca. Further, the statement 'cingulis nigris' was not transferred from the diagnosis of S. viatica to that of S. fusca, to which species it positively applies. A dichotomy of usage thus developed, with Fabricius and others using S. viatica for the pompilid currently so called, and applying S. fusca to the group of species including Priocnemis perturbator (Harris). In contrast, De Geer (1771) and others used S. viatica for the sphecid and S. fusca for the pompilid called viatica by Fabricius.

Latreille (1805: 293; 1809: 55) called attention to this dichotomy and referred to the pompilid in his various papers either as 'Pompilus viaticus Fabricius' or as Sphex fusca Linnaeus. He clearly stated that Sphex viatica L. was the sphecid otherwise known as Sphex arenaria Fabricius (=Podalonia hirsuta (Scopoli)).

Shuckard (1837: 62) examined the Linnaean collection and found a single female specimen labelled 'viatica', which proved to be the sphecid. However, he rejected the specimen as type, and retained the name for the pompilid; 'for the cabinet, from a variety of accidents, is not always to be depended upon'. Dahlbom (1843: 18, 57) used the name both for the sphecid and the pompilid. Smith (1858: 54, 82) applied the name viatica to the sphecid and fusca to the pompilid after examination of the Linnaean collection. He also proposed a name, Pompilus sepicola, for the entity misidentified by Fabricius as S. fusca. Latreille had clearly stated the problem, but Smith was perhaps the first worker to make comprehensive proposals of action to stabilize the application of these names.

Kohl (1906: 279), in a major re-appraisal of the group of sphecids to which *Podalonia hirsuta* belongs, rejected the use of S. viatica. Haupt (1927: 308), in a work of similar scope dealing with the Palaearctic Pompilidae, rejected the name from use in the Pompilidae, Richards (1935: 165) re-examined the Linnaean specimen and opted to apply the name in the Sphecidae. It is unfortunate that he was not followed by continental authors: his conclusions were made in the context of a work resolving nomenclatural problems in the Aculeata as a whole. Thus his view was not clouded by a particular viewpoint consequent upon the convenience of the nomenclature of any one restricted group within the aculeates. However, Verhoeff (1947: 334) reversed the application. Finally, van der Vecht (1958: 47) took action that he felt should be conclusive. Reasoning that no valid type-restriction had been made, he designated as lectotype a figure originally cited by Linnaeus, which is purported to be of a pompilid. However, Townes (1973) has disputed the validity of this procedure on several grounds, principally of the validity and priority of various past possible type-restrictions. Currently, the matter is subject of a submission to the International Commission on Zoological Nomenclature, concerned primarily with certain points of taxonomic procedure (Sabrosky, 1974). However, as a secondary consequence, the Commission will determine the validity or otherwise of past type-fixations. Provisionally, the name Sphex viatica Linnaeus is here applied in conformity with current usage.

## Episyron rufipes (Linnaeus)

Sphex rufipes Linnaeus, 1758: 571. Lectotype  $\mathfrak P$ , Sweden (CLS, London), by designation of Day (in press). Episyron rufipes (Linnaeus); Kloet & Hincks, 1945: 318.

## Genus APORUS Spinola

Aporus Spinola, 1808: 5. Type-species: Aporus bicolor Spinola, 1808, by subsequent designation (Latreille, 1810: 437).

Spinola proposed *Aporus* as a new genus which included two new species, *A. unicolor*, supposedly known only from males, and *A. bicolor*, known only from females. He suggested that these might be opposite sexes of a single species. The genus was characterized chiefly by the possession of two submarginal cells in the forewing, in contrast to the more usual three in *Pompilus* s. l. However, more than a page of further diagnosis was given. It is clear from the literature and from examination of Spinola's own collection that material of more than one currently recognized genus was confused by him; indeed, it is probable that the only characters routinely examined were those of the wing venation and abdominal coloration, despite the more detailed original diagnosis given. Since Spinola described *Aporus*, authors have interpreted the genus in several different ways; none has studied type-material.

Latreille (1809) disputed the value of Spinola's genus, but with reservations; he placed Spinola's species in a subgroup of *Pompilus* s. l. He also described *Pompilus planiceps*, a related species, in a different subgroup. In 1810, he recognized *Aporus* and designated *A. bicolor* as type-species. Leach (1815) based a subfamily Aphorida (sic) on *Aporus*. Latreille (1825) established the genus *Planiceps* for *P. planiceps*. Vander Linden (1827) identified Belgian material as *A. unicolor* and *A. bicolor*, and described as new *Aporus femoralis*, based on Belgian males, and *Aporus? dubius*, based on females. The latter he clearly placed apart from the first three species, as indicated both by his question mark and his discussion. He also placed *P. planiceps* in a separate genus, as *Planiceps latreillei* Vander Linden. Klug (1834) described several species from Egypt, all lacking the third submarginal cell, but otherwise of diverse affinities. Lepeletier (1845) included in *Aporus* the three species dealt with by Vander Linden. He also described a new genus and species, *Evagetes bicolor*, and clearly indicated that he believed this to be the same species as *Aporus? dubius* Vander Linden.

Dahlbom (1845) treated Aporus as a genus, placed immediately after Planiceps in his key. He included 11 species; those of Spinola, Vander Linden and Klug, species of diverse affinities but with two submarginal cells as their common characteristic. Wesmael (1851) realized that Vander Linden's material of Aporus consisted of a single species and that A. ? dubius was a member of a discrete genus. Smith (1855) reversed the trend and added yet more species to Aporus s. l. such that the group contained representatives of yet more modern genera. Kohl (1884) distributed the species amongst various of his 'Gruppe' of Pompilus, and indicated that he regarded each component group of species with two submarginal cells as closely related to one or other of his groups with three submarginal cells rather than to other groups with two cells. He recognized Planiceps as a discrete genus, but did not discuss the identity of Aporus. Tournier (1889) described several new species in Aporus.

Šustera (1913) discussed Kohl's treatment, but, whilst recognizing the artificiality of separating closely related species into different genera defined by the number of submarginal cells, nevertheless opted to do so. However, he cited as type-species of Aporus, A. unicolor Spinola (following Ashmead, 1802) and stated that it is closely related to a group of species including P. trivialis Dahlbom. He thus probably had before him a species of the modern genus Tachyagetes Haupt. In 1927, Haupt listed Planiceps as a junior synonym of Aporus, and recognized only two species: A. unicolor (which, following Šustera and Ashmead in nomenclature but not in identity, he took to be type-species) and A. pollux (Kohl). He cited A. bicolor, P. planiceps, A. femoralis and other species in the synonymy of A. unicolor. He placed A. dubius, with Evagetes filicornis Tournier, 1889, in a subgenus Evagetes of Psammochares (= Pompilus).

In 1930, Haupt published a revision of *Aporus*. In preparing the work, he studied two specimens in the collections of MNHU, Berlin, which appear to have been sent to Klug by Spinola, and

which may be syntypic material. One specimen was labelled A. unicolor, the other bicolor. Haupt based his interpretation of Aporus on the supposed male of A. unicolor, and recognized six Palaearctic species. He placed P. planiceps in a monotypic subgenus Planiceps. The specimen labelled A. bicolor proved to be a male of Evagetes filicornis Tournier, which Haupt in the same work designated type-species of a new genus, Tachyagetes. He reserved judgement on the possible identity of further type-material in the Spinola collection and suggested only in his discussion of Aporus that A. bicolor might be a senior synonym of Evagetes filicornis; the matter was ignored under his treatment of Tachyagetes. However, since he regarded A. unicolor as type-species of Aporus, the problem of synonymy of generic names did not occur to him.

Pate (1946), in an exhaustive catalogue of pompilid genera, reviewed the problem in the light of his own bibliographic researches. He found that Latreille had validly designated A. bicolor as type-species of Aporus in his work of 1810 (expressly validated by I.C.Z.N. Opinion 11). This was at variance with previous interpretations, which had accepted A. unicolor as type-species. Further, if other type-material of A. bicolor should finally be shown to be identical with the putative syntype in Berlin, then the name Aporus would have to be transferred as a senior synonym of the genus currently known as Tachyagetes Haupt. Indeed, Pate recommended that such a course be followed.

Evans (1966) made a plea for continuation of usage in the sense of Haupt, and suggested application to the I.C.Z.N. for preservation of *Aporus* in its current sense in the event that examination of type-material substantiates Pate's conclusions.

It is clear from the literature that an early dichotomy developed between those authors who applied the name in the modern sense of Haupt and those who applied the name to the group first differentiated by Vander Linden and named *Evagetes* by Lepeletier. Indeed, Latreille most probably had before him material of *E. dubius* rather than *Aporus*. Later, *Aporus* was used either for a composite group including representatives of genera such as *Telostegus* and *Ctenostegus* in addition to others listed above, or else for the group of species now called *Tachyagetes*. However, Haupt (1930) and subsequent workers have applied the name consistently.

The specimens in the Spinola collection at Turin bear no labels, but stand next to labels pinned in the store boxes. Box 81 contains material under various labels, but all stand under the name 'Aporus latreillei V. Lind.' (=Pompilus planiceps Latreille). Spinola had corresponded and exchanged material with Latreille, and had up-dated his collection in the light of subsequent publication by other authors.

A single label, as follows; 'Aporus latreillei, & . . . unicolor mihi, Ins. Lig. Evagetes Lepell. France & Ligurie' has to its right a single specimen badly damaged by *Anthrenus*; it bears a number on a small circular label, '6162'. A further label, 'G. Planiceps' is pinned to the right of the specimen. I regard this specimen as a syntype of *A. unicolor* Spinola.

Next is a label 'Aporus latreillei  $\mathcal{Q}$  coll. Latr. Paris'. Above this label are three females which may well be regarded as syntypes of *Pompilus planiceps* Latreille. After other labels, a label as follows: 'Aporus latreillei var.  $\mathcal{Q}$  m.... bicolor mihi faun. Ins. Lig. Ev. bicolor St. Farg? Ligurie'. Above this label are four specimens; I regard these as syntypes of *A. bicolor* Spinola.

### Aporus bicolor Spinola

Aporus bicolor Spinola, 1808: 34. LECTOTYPE Q, ITALY (MIZSU, Turin), here designated [examined].

I regard as syntypes four specimens from Turin (see above) and the male of *T. filicornis* from MNHU examined by Haupt. One specimen from Turin is a female of the group of species currently assigned to *Aporus* in the sense of modern authors; it agrees best with Wolf's (1972) interpretation of *A. helveticus* Tournier and *A. fulviventris pollux* (Kohl). Two females are specimens of *Evagetes dubius* Vander Linden; the fourth specimen is a thorax with wings of a *Tachyagetes*, probably a female *T. filicornis*. The Berlin specimen is, as Haupt has stated, a male *Tachyagetes*. I have therefore labelled and here designate as lectotype the female specimen listed first from Turin. *Aporus* is thus stabilized in the sense of modern authors and *Evagetes* and *Tachyagetes* are also conserved in their current applications.

Further work is needed to elucidate the western Palaearctic species of Aporus; several nominal

species are based on mixed series of syntypes. In my own view, a more practical assessment of variation in this group will reduce the number of European species recognized. However, the name A. bicolor can be applied as current valid name to the species recognized by Wolf (1972) as A. helveticus Tournier and A. fulviventris pollux (Kohl). Whether these names are properly applied, and are or are not thus synonyms of A. bicolor, remains to be determined.

#### Aporus unicolor Spinola

Aporus unicolor Spinola, 1808: 33. LECTOTYPE &, ITALY (MIZSU, Turin), here designated [examined]. Aporus femoralis Vander Linden, 1827: 349. Holotype &, not located, presumed lost, Belgium. Syn. n. Pompilus (Planiceps) castor Kohl, 1838: 150. Syntypes &, Austria (NM, Vienna) [examined]. Syn. n. Aporus unicolor Spinola; Richards, 1935: 161.

Aporus unicolor Spinola; Kloet & Hincks, 1945: 318.

Aporous (sic) femoralis Vander Linden; Else, 1975: 82. [Biology.]

A. unicolor. The male from Turin referred to above and the male from Berlin may be regarded as syntypes. The first, despite damage, is recognizable as a male of the species currently known as Aporus femoralis Vander Linden (sensu Haupt, 1930; Wolf, 1972; =A. unicolor of British authors). The second is a male of a different species, on which the current interpretation of A. unicolor is based, and which is a very small male of the species above identified as A. bicolor Spinola. I have labelled and here designate as lectotype the Turin specimen, which corresponds to A. unicolor sensu British authors.

Aporus femoralis. Vander Linden described from a single male with certain notable features: 'deuxième cubitale [cell] qui est petite et ne reçoit que la première nervure recurrente; la seconde de ces nervures s'insère un peu au-delà de cette cellule.' None of three possible specimens in the collections of IRSNB, Brussels agrees in this particular, all have the 'seconde nervure' interstitial or prefurcal, and I conclude that the holotype is lost, as are most other type-specimens of species described by Vander Linden. However, the species has always been consistently interpreted; confusion has centred on the identity of Spinola's species.

A. unicolor prevs on the purse-web spider, Atypus affinis.

#### Genus HOMONOTUS Dahlbom

Homonotus Dahlbom, 1843: 35. Type-species: Sphex sanguinolenta Fabricius, 1793, by monotypy.

## Homonotus sanguinolentus (Fabricius)

Sphex sanguinolenta Fabricius, 1793: 211. Holotype ♀, Germany (UZM, Copenhagen) [examined].

Pompilus dispar Latreille, 1809: 65. Type-material not located, presumed lost, France. [Senior primary homonym of P. dispar Dahlbom, 1843: 75.] Syn. n.

Homonotus sanguinolentus (Fabricius); Kloet & Hincks, 1945: 318.

S. sanguinolenta Fabricius. Though damaged, the Fabrician specimen is clearly recognizable.

P. dispar Latreille. No type-material of this taxon is known: the name has lain uninvestigated since proposal. Dalla Torre (1897: 285) placed it at the head of the synonymy of P. dispar Dahlbom, 1843, of which it is a senior homonym but not a synonym. I believe the interpretation here ascribed to P. dispar Latreille is the most probable, based on his description, and conveniently removes the name into synonymy. No new name is here proposed for P. dispar Dahlbom, a name sometimes applied to large females of Anoplius infuscatus Vander Linden.

#### Subfamily CEROPALINAE Radoszkowski

Ceropalidae Radoszkowski, 1888: 489. Type-genus: Ceropales Latreille, 1796: 123.

#### Genus CEROPALES Latreille

Ceropales Latreille, 1796: 123. Type-species: Evania maculata Fabricius, 1775, by subsequent designation (Latreille, 1810: 437).

#### Ceropales maculata (Fabricius)

Evania maculata Fabricius, 1775: 345. LECTOTYPE Q, GREAT BRITAIN (BMNH), here designated [examined].

Ceropales semiannulatus Curtis, 1839: 756. Holotype ♀, Great Britain (NMV, Melbourne) [examined]. Syn. n.

Ceropales maculata (Fabricius); Kloet & Hincks, 1945: 318.

E. maculata Fabricius. One female and one male specimen in the Banks collection (BMNH) both lack the abdomen. Eight additional specimens in Copenhagen are only doubtfully syntypes. I have labelled and here designate as lectotype the female in the Banks collection, since this is the originally cited depository.

Ceropales semiannulatus. The holotype female bears a printed label 'semiannulatus', a rededged 'type' label, and Richards's label, 'Ceropales semiannulatus Curtis ♀ type = C. maculata

(Fab) OWR 10.11.48.'.

#### Ceropales variegata (Fabricius)

Evania variegata Fabricius, 1798: 241. Holotype &, Germany (East) (UZM, Copenhagen) [examined]. Ceropales variegata (Fabricius); Kloet & Hinks, 1945: 318.

# Check list of British species

The names listed as valid in Kloet & Hincks (1945) are given in square brackets where they differ from those used in the present work.

[affinis (Vander Linden)]

[obtusiventris Schiødte]

[femoralis (Dahlbom)]

[minor (Zetterstedt)]

[plunibeus (Fabricius)]

[new to list]

Subgenus ADONTA Billberg notatus (Rossius) PRIOCNEMIS Schiødte Subgenus PRIOCNEMIS Schiødte agilis (Shuckard) cordivalvata Haupt exaltata (Fabricius) fennica Haupt gracilis Haupt hyalinata (Fabricius) parvula Dahlbom propingua (Lepeletier) pusilla Schiødte schioedtei Haupt Subgenus UMBRIPENNIS Junco coriacea Dahlbom perturbator (Harris)

carbonarius (Spinola)
POMPILUS Fabricius
cinereus (Fabricius)

CRYPTOCHEILUS Panzer

susterai Haupt [new to list] CALIADURGUS Pate [Calicurgus Lepeletier] fasciatellus (Spinola) [hyalinatus (Fabricius)] **DIPOGON** Fox [Deuteragenia Šustera] Subgenus DEUTERAGENIA Šustera bifasciatus (Geoffroy) [intermedia (Dahlbom)] nitidus (Haupt) [hircana (Fabricius)] variegatus (Linnaeus) AUPLOPUS Spinola [Pseudagenia Kohl]

AGENIOIDEUS Ashmead

Subgenus GYMNOCHARES Banks

cinctellus (Spinola)

ARACHNOSPILA Kincaid

Subgenus ARACHNOSPILA Kincaid

rufa (Haupt)

Subgenus ANOPLOCHARES Banks

minutula (Dahlbom)

spissa (Schiødte)

Subgenus AMMOSPHEX Wilcke

anceps (Wesmael) consobrina (Dahlbom) trivialis (Dahlbom) wesmaeli (Thomson)

**EVAGETES** Lepeletier

crassicornis (Shuckard) dubius (Vander Linden)

pectinipes (Linnaeus)

[Pompilus Fabricius]

[sericeus (Vander Linden) deleted]

[Pompilus Fabricius]

[trivialis Dahlbom]

[unguicularis Thomson]

[in *Pompilus*]

[new to list]

ANOPLIUS Dufour

Subgenus ANOPLIUS Dufour

caviventris (Aurivillius)

concinnus (Dahlbom)

nigerrimus (Scopoli)

Subgenus ARACHNOPHROCTONUS Howard

infuscatus (Vander Linden)

viaticus (Linnaeus)

EPISYRON Schiødte

rufipes (Linnaeus)

APORUS Spinola

unicolor Spinola HOMONOTUS Dahlbom

sanguinolentus (Fabricius)

CEROPALES Latreille

maculata (Fabricius)

variegata (Fabricius)

[piliventris (Morawitz)]

[fuscus (Linnaeus)]

# Summary of nomenclatural changes

#### NEW SYNONYMY

Boreopompilus Wolf syn. n. of Ammosphex Wilke

Carinevagetes Wolf syn. n. of Evagetes Lepeletier

Anoplius pannonicus Wolf syn. n. of Pompilus piliventris Morawitz

Aporus femoralis Vander Linden syn. n. of Aporus unicolor Spinola

Ceropales semiannulatus Curtis syn. n. of Evania maculata Fabricius

Pompilus castor Kohl syn. n. of Aporus unicolor Spinola

Pompilus dispar Latreille syn. n. of Sphex sanguinolenta Fabricius

Pompilus femoralis Dahlbom syn. n. of Sphex hyalinata Fabricius

Pompilus hircanus Fabricius syn. n. of Ichneumon bifasciatus Geoffroy

Pompilus minor Herrich-Schaeffer syn. n. of Pompilus infuscatus Vander Linden

Pompilus sepicola Smith syn. n. of Sphex perturbator Harris

Salius notatulus Saunders syn. n. of Sphex hyalinata Fabricius

NAMES RECALLED FROM SYNONYMY

Caliadurgus Pate nom. rev. Pompilus agilis Shuckard sp. rev. Pompilus fasciatellus Spinola sp. rev. Pompilus piliventris Morawitz sp. rev.

NEW COMBINATION

Priocnemis hyalinata (Fabricius) comb. n.

NEW SPECIES

Dipogon (Deuteragenia) vechti sp. n.

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#### References

- Ashmead, W. H. 1902. Classification of the fossorial, predaceous and parasitic wasps, of the superfamily Vespoidea. Parts 3 & 4. Can. Ent. 34: 79–88, 131–137.
- Aurivillius, C. 1907. Hymenoptera. 1. Gaddsteklar. Aculeata. Sjunde Familjen. Vägsteklar. Pompilidae. Ent. Tidskr. 28: 1-30.
- Banks, N. 1910. New species of Psammocharidae. Jl N. Y. ent. Soc. 18: 114-126.
- —— 1912. Psammocharidae: classification and descriptions. Jl N. Y. ent. Soc. 19: 219–237.
- —— 1914. New species of Psammocharidae. Jl N. Y. ent. Soc. 22: 300–306.
- —— 1917. New fossorial Hymenoptera. Bull. Mus. comp. zool. Harv. 61: 97-115.
- —— 1934. The Psammocharidae of the Philippines. Proc. Am. Acad. Arts Sci. 69 (1): 1-117.
- —— 1939. Notes and descriptions of native Psammocharidae. Can. ent. 71: 225–231.
- Berland, L. 1925. Hyménoptères Vespiformes. 1 (Sphegidae, Pompilidae, Scoliidae, Sapygidae, Mutillidae). Faune Fr. 10: i-viii, 1-364.
- Billberg, G. J. 1820. Enumeratio insectorum in museo Gust. Joh. Billberg, 138 pp. Stockholm.
- Blüthgen, P. 1952a. Bemerkenswerte Aculeaten Funde aus Schwaben, insbesondere aus dem Allgäu. Ber. naturf. Ges. Augsburg 1952: 125–130.
- —— 1952b. Über vier von A. G. Dahlbom beschreibene und einige andere Wegwespen (Hym. Pompilidae). Opusc. ent. 17: 11-16.
- Brullé, G. A. 1833. Insectes: Hyménoptères. Expédition Scientifique de Morée 3 (1): 326-395.
- —— 1840. Insectes. Histoire Naturelle des Iles Canaries 2 (2): 55–119.
- Chambers, V. H. 1948. The correct name of the species described as *Pompilus cardui* Perkins, 1917 (Hym., Pompilidae). *Entomologisi's mon. Mag.* 84: 232–234.
- Coquebert, A. J. 1801. Illustratio iconographia insectorum quae in museis parisinus observavit et in lucem edidit Joh. Christ. Fabricius 2: 47–90, pls 11–20. Reims.
- Cresson, E. T. 1867. Notes on the Pompilidae of North America, with descriptions of new species. *Trans. Am. ent. Soc.* 1: 85–150.
- Curtis, J. 1839. British entomology 16: pls 722-769. London.
- Dahlbom, A. G. 1829. Monographia Pompilorum Sveciae. iv+15 pp. Lund.
- —— 1842. Dispositio methodica speciorum scandinavicarum ad familias Hymenopterorum naturales pertinentium. Part 1. Sphex in sensu Linnaeano. ii+16 pp. Lund.
- —— 1843-45. Hymenoptera Europaea praecipue borealia . . . per familias, genera, species et varietates disposita atque descripta. 1-3, 528 pp. Lund.
- Dalla Torre, K. W. von 1897. Catalogus hymenopterorum hucusque descriptorum systematicus et synonymicus 8. viii+749 pp. Leipzig.

Day, M. C. 1972. A note on the species of *Agenioideus* Ashmead (Hymentopera: Pompilidae) in the British list, with new synonymy. *Entomologist's Gaz.* 23: 69–70.

— in press. The species of Hymenoptera described by Linnaeus in the genera Sphex, Chrysis, Vespa, Apis and Mutilla. Linnean Society, London.

Dezcourtilz, T. 1825. Mémoire sur un nouveau genre d'insecte de l'ordre des Hémiptères. Mém. Soc. linn. Paris 3: 293-297.

De Geer, G. 1771. Mémoires pour servir à l'histoire des insectes 2 (2): 617-1173. Stockholm.

Dufour, L. 1834. Observation sur une nouvelle espèce d'Anoplius qui n'offre qu'un seule ocelle. Annls Soc. ent. Fr. 2: 483–485.

**Dreisbach, R. R.** 1949. Psammocharini (Hymenoptera) of North America and the Antilles: key to genera: new species and key to males of *Pompilinus*. *Entomologica am.* 29: 1–34.

—— 1950. New species in the genera Anoplius, Pycnopompilus and Streptosella, n. gen. (Hymenoptera Psammocharidae). Am. Midl. Nat. 43: 570-599.

Else, G. R. 1975. Approus (sic) femoralis (Vander Linden) (Hym. Pompilidae) in Hampshire and the Isle of Wight and a record of its prey in Britain. Entomologist's mon. Mag. 110: 82.

Evans, H. E. 1951. A taxonomic study of the Nearctic spider wasps belonging to the tribe Pompilini (Hymenoptera: Pompilidae). Part 2. Trans. Am. ent. Soc. 77: 203-340.

—— 1966. A revision of the Mexican and Central American spider wasps of the subfamily Pompilinae (Hymenoptera: Pompilidae). *Mem. Am. ent. Soc.* 20: 1–442.

1972. A review of the Australian species of *Elaphrosyron* and *Telostegus*, with notes on other genera (Hymenoptera: Pompilidae). *Breviora* 386: 1-18.

Fabricius, J. C. 1775. Systema entomologiae. (30) +832 pp. Flensberg & Leipzig.

—— 1787. Mantissa insectorum sistens species nuper detectas. 1. xx+348 pp. Copenhagen.

— 1793. Entomologia systematica emendata et aucta. 2. viii + 519 pp. Copenhagen.

— 1794. Entomologia systematica emendata et aucta. 4. (8)+472 pp. Copenhagen.

—— 1798. Supplementum entomologiae systematicae. (4) + 572 pp. Copenhagen.

— 1804. Systema Piezatorum. xiv + 439 pp. Brunswick.

Fourcroy, A. F. de 1785. Entomologia Parisiensis 2. 233-544 pp. Paris.

Fox, W. J. 1897. Contributions to a knowledge of the Hymenoptera of Brazil. No. 2. Pompilidae. *Proc. Acad. nat. Sci. Philad.* 1897: 229–283.

Frisch, J. L. 1721. Beschreibung von allerley Insecten in Teutschland 2. 45 pp. Berlin.

Harris, M. 1776-1780. Exposition of English insects. 166 pp., 50 pls. London.

Haupt, H. 1927. Monographie der Psammocharidae (Pompilidae) Mittel-, Nord- und Osteuropas. Dt. ent. Z. 1926-27: 1-367.

—— 1930. Die Einordnung der mir bekannten Psammocharidae mit 2 Cubitalzellen in mein System. Mitt. zool. Mus. Berl. 16: 673–797.

Herrich-Schaeffer, G. A. W. 1830. Deutschlands Insecten. No. 117: 24 pp., 24 pls. Regensburg.

Howard, L. O. 1901. The insect book. xxvii + 429 pp. New York.

International Commission on Zoological Nomenclature 1945. Opinion 166. On the status of the names *Pompilus* Fabricius, 1798 and *Psammochares* Latreille, 1796 (Class Insecta, Order Hymenoptera) and the alleged generic name *Pompilus* Schneider, 1784 (Class Cephalopoda, Order Nautiloidea). *Opin. Decl. int. Commn zool. Nom.* 2 (36): 375+398.

—— 1973. Opinion 997. Anoplius Dufour, 1844 (sic) (Insecta, Hymenoptera): designation of a type-species under the plenary powers together with the designation of neotypes for two nominal species.

Bull. zool. Nom. 30: 25-26.

Junco, J. J. del 1946. Himenópteros de España. Fam. Psammocharidae (olim Pompilidae) 1. Pepsinae. 2. Gen. Priocnemis Schdte. Eos, Madr. 22: 123–298.

Kincaid, T. 1900. Papers from the Harriman Alaska expedition. Entomological results. 8. The Sphegoidea and Vespoidea. Proc. Wash. Acad. Sci. 2: 507-510.

Kloet, G. S. & Hincks, W. D. 1945. A check list of British insects. lix+483 pp. Stockport.

Klug, F. 1834. In Ehrenberg, C. G., Symbolae physicae, seu icones et descriptiones corporum naturalium novarum . . . pars zoologica 2 (4), 50 pls+text. Berlin.

Kohl, F. F. 1884. Die Gattungen der Pompiliden. Verh. zool.-bot. Ges. Wien 34: 33-58.

—— 1888. Neue Hymenopteren in den Sammlungen des K.K. naturhistorischen Hofmuseums. Verh. zool.-bot. Ges. Wien 38: 133–156.

—— 1906. Die Ammophilinen der Paläarctischen Region. Annln naturh. Mus. Wien 21: 228–382.

Latreille, P. A. 1796. Précis des charactères génériques des insectes, disposés dans un ordre naturel. xiii + 7-201 pp. Brive.

—— 1803. Nouveau dictionnaire d'histoire naturelle. 21. 571 pp. Paris.

- —— 1805. Histoire naturelle, générale et particulière, des crustacés et des insectes. 13. 468 pp. Paris.
- —— 1809. Genera crustaceorum et insectorum secundum ordinem naturalem in familias disposita. **4.** 399 pp. Paris & Strasbourg.
- 1810. Considérations générales sur l'ordre naturel des animaux component les classes des crustacés, des arachnides et des insectes: avec un tableau méthodique de leur genres disposés en familles. 444 pp. Paris.
- —— 1825. Familles naturelles du règne animal, exposées succinctement et dans un ordre analytique avec l'indication de leur genres. 570 pp. Paris.
- Leach, W. E. 1815. Entomology in Brewster's Edinburgh encyclopaedia 9 (1): 57-172 pp. Edinburgh.

Lepeletier de Saint-Fargeau, A. 1831. Macromeris. Mag. Zool. 1: 29-30.

—— 1845. Histoire naturelle des insectes. Hyménoptères. 646 pp. Paris.

Lichtenstein, A. A. H. 1796. Catalogus musei zoologici ditissimi Hambergi . . . auctionis lege distrahendi. Sectio tertia: Insecta. xiv+224 pp. Hamburg.

Linnaeus, C. 1758. Systema naturae. 10th edn. 1. 823 pp. Stockholm.

—— 1761. Fauna Suecica, editio altera. (48) + 578 pp. Stockholm.

Mócsár, L. 1946. Eine neue Hymenopteren-Gattung, *Psammocharoides* nov. gen., und Arten. *Annls hist.-nat. Mus. Nat. hung.* 39: 113–121.

—— 1956. Pókölódarázs alkatúak Pompilioidea. Fauna Hung. 13 (5): 1-76.

Morawitz, F. 1889. Insecta a A. G. N. Potanin in China et in Mongolia novissime lecta. 4. Hymenoptera Aculeata. *Trudy russk. ent. Obshch.* 23: 112–168.

Panzer, G. W. F. 1806. Kritische revision der Insekten Faune Deutschlands nach dem System bearbeitet. (14) + 271 pp. Nuremberg.

Pate, V. S. L. 1946. The generic names of the spider wasps (Psammocharidae *olim* Pompilidae) and their type species. *Trans. Am. ent. Soc.* 72: 65–130.

Perkins, R. C. L. 1917. On a new species of *Psammochares* (or *Pompilus*) in England. *Entomologist's mon.*Mag. 53: 10-11.

—— 1945. The aculeate Hymenoptera of a small area of Dartmoor near Lydford, Devon. Entomologist's mon. Mag. 81: 145–153.

Priesner, H. 1966. Studien zur Taxonomie und Faunistik der Pompiliden Österreichs. 1. Naturk. Jb. Stadt Linz 1966: 187–208.

Provancher, L. A. 1882. Faune Canadienne. Les insectes Hyménoptères (part). Naturaliste can. 13: 33-51.
 Radoszkowski, O. 1888. Révision des armures copulatrices des mâles de la famille Pompilidae. Bull. Soc. Nat. Moscou 1888: 462-493.

Richards, O. W. 1935. Notes on the nomenclature of the aculeate Hymenoptera, with special reference to British genera and species. *Trans. R. ent. Soc. Lond.* 83: 143–176.

Rossius, P. 1792. Mantissa insectorum exhibens species nuper in Etruria collectas. Part 1. 148 pp. Pisa.

Sabrosky, C. W. 1974. *Sphex viatica* Linnaeus: a problem of types and revisers (Hymenoptera, Sphecidae or Pompilidae). Z.N. (S.) 2061. *Bull. zool. Nom.* 31: 159–163.

Saunders, E. 1880. Synopsis of the British Heterogyna and fossorial Hymenoptera. *Trans. ent. Soc. Lond.* 1880: 201–304.

—— 1896. The Hymenoptera Aculeata of the British Islands. viii+391 pp. London.

Schiødte, J. 1837. Sammenstillung af Danmarks Pompilidae. Naturh. Tidsskr. 1: 313–344.

Schrank, F. von P. 1798. Fauna Boica 1. xii + 720 pp. Nuremberg.

Scopoli, J. A. 1763. Entomologia Carniolica (20) + 421 pp. Vienna.

Shuckard, W. E. 1837. Essay on the indigenous fossorial Hymenoptera. xii + 259 pp. London.

Smith, F. 1851. List of the specimens of British animals in the collection of the British Museum. Part 6. 134 pp. London.

—— 1855. Catalogue of Hymenopterous insects in the collection of the British Museum. Part 3. Mutillidae and Pompilidae. 206 pp. London.

—— 1858. Catalogue of British fossorial Hymenoptera, Formicidae and Vespidae in the collection of the British Museum. 236 pp. London.

—— 1877. Notes on new and rare species of aculeate Hymenoptera, taken during 1874, 1875, 1876. Entomologist 10: 61–67.

Spinola, M. 1808. Insectorum Liguriae species novae aut rariores. 2. ii + 262 pp. Genoa.

—— 1841. Hyménoptères recuellis à Cayenne en 1839 par M. Leprieur, pharmacien de la Marine Royale. 2<sup>e</sup> partie. Porte-aiguillons (1). *Annls Soc. ent. Fr.* 10: 85–149.

Spooner, G. M. 1941. The characters of the female and distribution in Britain of *Pompilus trivialis* Dahlb., unguicularis Thoms. and wesmaeli Thoms. (Hymenoptera: Pompilidae). Trans. Soc. Br. ent. 7: 85–122.

Sustera, O. 1912. Die Paläarctischen Gattungen der Familie Psammocharidae (olim Pompilidae, Hym.). *Verh. zool.-bot. Ges. Wien* 62: 171–213.

— 1924. Beiträge zur Kenntnis der Paläarktischen Psammochariden (Hymen.). 3. Cryptochilus Panz. Jubilijm sborník československé společnosti entomologické, 71–96 pp. Prague.

— 1938. Celed' Psammocharidae (olim Pompilidae: Hrabalky). In Prodromus Hymenopterorum Čecho-slovakiae. Sb. ent. Odd. nár. Mus. Praze 16: 196–223.

Thomson, C. G. 1870. Opuscula entomologica. 452 pp. Lund.

Tournier, H. 1889. Hyménoptères. Étude de quelques pompilides d'Europe et contrées limitrophes. Entomologiste genèv. 1889: 133-140, 154-178.

Townes, H. K. 1951. *In Muesebeck*, C. F. W., Krombein, K. V. & Townes, H. K., Hymenoptera of America north of Mexico—synoptic catalogue. *Agriculture Monogr.* 2: 1402 pp.

— 1973. The type of *Sphex viatica* Linnaeus (Hymenoptera, Sphecidae). *Polskie Pismo ent.* 43: 91–96. Valkeila, E. 1960. Ein Beitrag zur Synonymik der *Priocnemis*-Arten (Hym. Pompilidae) von Dahlbom. *Opusc. ent.* 25: 232.

—— 1961. Berichtigung. Opusc. ent. 26:3.

Vander Linden, P.-L. 1827. Observations sur les Hyménoptères d'Europe de la famille des fouisseurs. 1. Nouv. Mém. Acad. R. sci. Bruxelles 4: 273-367.

Vecht, J. van der 1958. The identity of Sphex viatica Linné, 1758 (Hymenoptera, Pompilidae). Ent. Ber., Amst. 18: 47-48.

—— 1960. Notes on Aculeate Hymenoptera described in the period 1758–1810. Part 4. Ent. Ber., Amst. 20: 4-7.

& Menke, A. 1968. Anoplius Dufour, 1834 (Insecta, Hymenoptera); proposed designation of a type-species with proposed designation of neotypes under the plenary powers for Sphex nigra Fabricius, 1775 and Sphex nigerrimus Scopoli, 1763. Bull. zool. Nom. 25: 120-124.

Verhoeff, P. M. F. 1947. Sphex viatica Linné, 1758 = Anoplius viaticus (L.) (Hym. Pomp.). Tijdschr. Ent. 88: 334–336.

Wahis, R. 1955. Catalogue systématique et synonymique des hyménoptères pompilides de Belgique. *Bull. Inst. sci. nat. Belg.* 31 (63): 1–20.

— 1957. Additions et corrections au catalogue systématique et synonymique des hyménoptères pompi-

lides de Belgique. Bull. Inst. sci. nat. Belg. 33 (26): 1-7.

—— 1974. Données pour un atlas des hyménoptères de l'Europe occidentale. Pompilides du genre Dipogon Fox, 1887 (sic), sous-genre Deuteragenia Šustera, 1912 (Pompilidae, Pepsinae). Bull. Rech. agron. Gembloux 7 (1972): 333–349.

Wesmael, C. 1851 Revue critique des hyménoptères fouisseurs de Belgique (suite). Bull. Acad. r. Belg.

Westwood, J. O. 1840. Synopsis of the genera of British insects. 158 pp. London.

Wilcke, J. 1942. Het geslacht Pompilus F. (Psammochares Latr.). Ent. Ber., Amst. 11:23-32.

—— 1943. De Nederlanse Pompilidae. Meded. Landb Hoogesch. Wageningen. 47: 1–88.

Wolf, H. 1963. Monographie der Westpaläarktischen *Priocnemis*-Arten (Hym. Pompilidae). *Boll. Mus. Civ. Stor. nat. Venezia* 13 (1960): 21–181.

— 1963. Die Nord- und Mitteleuropäischen Arten der Gattung Anoplius Dufour, 1834 (Hym. Pompili-

dae), Opusc. ent. 28: 129-144.

**18**: 451–493.

—— 1964. Die Nord- und Mitteleuropäischen Arten der Gattung Dipogon Fox 1897, Untergattung Deuteragenia Sustera 1912 und der Gattung Pompilus Fabricius 1798 Untergattung Arachnospila Kincaid 1900 (Hym. Pompilidae). Opusc. ent. 29: 4–30.

1965. Neue Wegwespen (Hym. Pompilidae) aus der Schweiz und aus dem Musée Zoologique,

Lausanne. Mitt. schweiz ent. Ges. 38: 88-105.

—— 1967. Wegwespen (Hym. Pompiloidea) Finnlands. Acta ent. fenn. 23: 1–46.

—— 1970. Zur Kenntnis der Gattung *Evagetes* Lepeletier, 1845 (Hymenoptera: Pompilidae). *Beitr. Ent.* 20: 51-83.

—— 1972. Insecta Helvetica. Fauna 5. Hymenoptera Pompilidae. 176 pp. Zurich.

Zetterstedt, J. W. 1838. Insecta Lapponica 1-3. 867 pp. Leipzig.

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